

# Chapter-III

## **Theoretical Background**

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## **Chapter-III**

### **Theoretical Background**

#### **Agriculture Section-1**

##### **3.1 Introduction**

Agriculture is the populous countries like India provides the main stay of livelihood and contributes significantly in the economic development of the nation in India. Approximately 72% of the working population is engaged in agriculture. But it is a well known fact that the food production in Indian is not keeping pace with the population increase. The development of the physical inputs is the requisite qualification to make the agriculture dynamic and the rural economy stabilized.

Indian agriculture has made great strides in the course of the last half a century of planned development. There has been a major transformation of farming from the traditional to the modern with million's of farmer's. Including the small and the marginal, who have become increasingly Science and Technology conscious fully participating in the green revolution. With these achievements the country has entered the new era of globalization with confidence.

##### **3.2 Definitions of Agriculture:**

1. Agriculture is the process of producing food, feed, fiber, fuel and other good by the systematic raising of plants and animals.
2. It is the science, art and business of cultivating the soil, producing crops and raising live stock, farming
3. Defined by Section 336 (1) of the town and country planning Act, 1990 as including; horticulture, fruit growing seed growing, dairy farming, the breeding and keeping or lives stock (including any creature kept for the production of food, wool, skins or furs.)

In a broad sense agriculture includes cultivation of the soil, growing and harvesting crops, breeding and raising lives stock, dairying and forestry.

### **3.3 Agriculture and Economic Development:**

Agriculture is not only the source of food needs of the country it provides raw material, income purchasing power and releases the labour forces, etc. This success of planning is largely dependent on sound agricultural base.

#### **1. Food Requirement:**

All the countries provide the first preference to their food requirement. No country can afford to purchase all the food articles from the other countries and pay the huge bills for imports. The import of food can disturb all the planning. The buffer stocks are being kept for future needs also.

#### **2. Providing of Raw Materials:**

In the initial stages of economic development the agro-based industries are being started as they require less of capital and involves the whole area and public in the process of growth. The sugar, cotton, textile and jute industries can only be successful if the adequate raw material is available for these mills. Otherwise the installed capital would remain idle and it would be the wastage of resources. The adequate supply of raw material of so many agricultural countries commodities is most essential for rapid development of these industries.

#### **3. Purchasing Power:**

Suppose there is poor base of agriculture economy. The industrial goods cannot be purchased. The largest section of society engaged in agriculture should have good income, only then they can purchase the industrial goods. The prosperity in agriculture can help the industries by purchasing their goods and for further installation of new industries. The main objective of the industrialist is to sell more and more goods and only the sound agricultural economy can help it.

#### **4. Release of Labour Force:**

In the backward agriculture most of the labour employed is having small production. Most of the labour force is employed in agriculture. There is less of mechanization, labour incentive cultivation is employing so many persons even though they are not producing any positive results with the development of agriculture and more of mechanization some of the labour force can be released to

work in industries as the developed agriculture requires the less number of labourers. That is why it is very much required to develop agriculture before the industrial development.

## **5. Earning of Foreign Exchange:**

In the agriculture countries the industrial goods cannot complete in the foreign markets. Then there are the agricultural commodities that can earn easily earn the good amount of foreign exchange that is required for planning projects of the home country. Agriculture is still having the largest contribution in the foreign exchange earnings of India.

## **3.4 AGRICULTURAL LABOUR:**

### **Meaning**

1. An agricultural labour is one who is basically unskilled and unorganized, has little for his livelihood other than personal labour.
2. A person who works on another personal land for wages in the form of money or in the kind of share is regarded as an agricultural labour.
3. Those people are agricultural labours who are engaged in raising crops on payment of wages.
4. Those labours that are mostly land less and form a significant section of rural society mainly depend on wage employment in agriculture.

### **N.S.S.C.**

A person was treated as an agricultural labour if he/she followed one or more of the following agriculture occupation in the capacity of a labourer on hire. Whether paid in cash or kind or partly in cash and partly in kind.

- a. Farming including the cultivation and tillage of the soil
- b. Daily farming
- c. Production, cultivation, growing and harvesting of any horticulture commodity
- d. Raising of livestock, bee-keeping or poultry farming
- e. Any practice performed on a farm as incidental to or in conjunction with the farm operation.

Persons helping in farming activities as manual labourers and getting wages for their services are the agricultural labourers. Socially and

psychologically this profession had been considered a low paying profession due to following points.

1. There is less scope to develop the activity or skill and earn more.
2. Less scope for promotion and better prospects
3. There are no fixed hours of working
4. The work is irregular. Rush at one period and less in some other period.
5. Sometimes the labourers have to do work day and night
6. The job is not permanent, they can be removed at any time at the will of the proprietor
7. There are no special security measures for agricultural labourers. No compensation in case of accidents. No old age or retirement pension no security in case of illness, etc.

## **SUGARCANE FARMING Section-2**

### **3.5 Introduction:**

Scientific Name – **Saccharum officinarum**

Family – **Gramineae**

Sugarcane is the most important sugar crop of India and holds pre-eminent position as a cash crop in India. It is the main source of sugar of sugar in India. It is one of the hardiest crops and a very efficient converter of solar energy into carbohydrate rates (i.e. sucrose). The word 'sugar' and 'sugarcane' are derived from the Sanskrit word 'Sharkara' (white sugar). It is recognized as 'cash crop'.

### **3.6 Definition:**

#### **Horticulture:**

Horticulture is the science and art of cultivating fruits, vegetables, and flowers and ornamental plants. Etymologically, "horticulture can be broken down into two Latin words: (garden) and cultus (tilling). As William L. George explains in his definition of horticulture.

**Sugarcane:**

The sugarcane is a gigantic grass and consists of roots. The stalk is made up of segments each from three to eight inches long and is like a bamboo. It reaches a height of eight inches long and is like a bamboo. It reaches a height of eight to fifteen feet. Though some kinds grow as tall as twenty feet. The stalk is from half an inch to two inches in diameter round the stem joint as the cane grows the lower leaves die and fall off. The leaves are from three to five feet long and two or more inches wide. The stalk is a tube of hard rind filled with softer fiber. The inner fiber contains the sugar.

**3.7 Origin:**

Sugarcane has been under cultivation from earlier times in India and it is considered that India is its original home. According to Barman (1953), the original home of sugarcane is an island of Pacific region from where it spreads to India and other parts of the world. Barber (1931) was of the opinion that the thin Indian canes probably originated in most parts of North Eastern India, from some plant closely related to *Saccharum spontaneum* (Linn's). Tropical cane might have been originated in some of the largest islands of Oceania, most probably in New Guinea. Brondes (1956) also concluded that it was originated in New Guinea, where various forms of thick, tall, tropical canes have been grown from ancient times.

**3.8 Sugarcane Concerns to –****a. A Botanist:**

Graminaceous plant with abundant quantity of sucrose stored in its stem.

**b. A Physiologist:**

Champion terrestrial  $C_4$  plant having immense power to harness solar energy.

**c. A Farmer:**

A cash crop.



### **3.9 Salient Features of Sugarcane**

#### **1. Tillering Potential:**

As many as 144 millable canes from one bud of sugarcane have been reported (At IISR, Lucknow 86 tillers and millable canes have been observed in a sugarcane variety, co 1148.)

#### **2. Ratooning Potential:**

One field was planted with sugarcane in 1757 AD in Fujian province in China and since then reasonably good ratoon crops have been harvested year after year with a reasonable good yield.

#### **3. Highly Heterozygous Polyploidy**

#### **4. 2n+n gametic transmission (instead of n+n)**

#### **5. En-bloc elimination of chromosomes**

### **3.10 PLANTING SUGARCANE**

#### **i) Planting Time**

Sugarcane is planted during the following four seasons in India which represent district agronomic situations to take care of cropping systems under different agro-climate conditions.

#### **1. Autumn Planting**

Planting during October in North India is known as autumn planting. Although it is superior to spring planting in cane yield and juice quality. It has not become popular as it keeps the field engaged for more than a year.

#### **2. Summer (late) Planting**

Planting sugarcane in April/May after wheat harvest, is common in North-Western India. Relatively lesser crop duration and higher temperatures prevailing during early stage of crop growth reduce yields.

#### **3. Adsali Planting**

It is of one-and-a half years duration (18 months) crop, planted from and June to end October. It is common in Maharashtra and some other parts of peninsular India.

## **ii) Planting Methods**

Planting methods for sugarcane have been developed and adopted keeping in view the soil conditions, preceding crops, irrigation methods, etc.

### **1. Flat Planting**

It is usually practiced in North India where every fast depletion of soil moisture viz-a-viz soil moisture takes place following planting and the germination of buds is usually low.

### **2. Trench Planting**

In South India, the trenches are dug about 20cm deep and 40cm wide, the distance between the centres of adjacent trenches being 100 cm in case of eksali and about 120cm in adsali crop. Greater moisture retention leads to a saving of 12.5 percent in irrigation leads to a saving planting. The high degree of basal anchorage prevents lodging and gives 5.10 x ha<sup>-1</sup> higher yield than the flat or shallow planting. At IISR Lucknow, cane yield of fertilized deep trenches was found to be higher as compared to the flat planted cane.

### **1. Ridge and Farrow Planting**

It is also followed in South India. The depth from top of the ridge to the bottom of the furrow is kept about 20 to 25cm. In coastal Andhra Pradesh and Tamilnadu receiving heavy rainfall from October to December sets are also laced obliquely in furrows.

### **2. IISR 8626 Technique**

This technique developed at IISR, Lucknow, refers to the planting of long rayungan's vertically in deep, fully fertilized and irrigated trenches.

### **3. Spaced Transplanting Technique (STP)**

A new transplanting technique developed at the Indian institute of sugarcane research, Lucknow minimizes the input levels and suits farmers with small holdings. Raising settling nursery and transplantation of setting are two basic steps of this method. Before transplanting, leaves must be trimmed and care must be taken during transplanting. This method of planting improves yield by 20.25% in tropics and about 40-50% in subtropical regions of India. Besides there is saving of nearly 4 tonnes in seed cane per ha. The crop stand is characterized by higher stalk population, uniform crop stand with higher average cane weight, lower incidence of pests and diseases, late shoot production and reduced lodging.

There is an increase in seed multiplication ratio (1:40) over the conventional method (1:10).

#### **4. Poly bag Technique**

Settings are raised in polyethylene bag's and these may be placed at any place. Poly bags settings are transplanted with soil by removing polyethylene so the root system is not disturbed, which helps in quick establishments of settings. It leads to early vigour of plants, produce higher stalk population, higher average cane weight which ultimately results in higher cane yields. The crop raised from these gives higher sugar recovery because of synchronous and early tailoring which leads to production of uniformly matured stalks.

#### **5. Ring Planting**

Ring planting (90 x 45cm) system increased the cane yield up to 180 + /had + IISR, Lucknow. In each ring (pit) about 22 sets are placed horizontally in a circular manner. The crop under this method consists mainly of mother. Shoots which are heavier and thicker in size. An increase of 15 tones/ha was obtained by using this technique over the flat planting.

#### **6. Bad-chip method of Planting**

It this bad chips are scoped mechanically and settings are raised and then transplanted. The technique was developed at Tanaku (Andhra Pradesh)

#### **7. Trash Vein's**

In alkaline soils, yields of sugarcane cane be doubled by planting cane in (20-25cm) furrows and packing trash in the furrows as soon as germination is over and tailoring starts.

#### **8. Micro propagation**

Vegetation propagation of plants under septic conditions, or its clonal multiplication in vitro. In this the apical meristem, shoot-tip or leaf explants are induced to give rise to new plantlets.

### **3.11 Problems and Probabilities of Sugarcane Cultivation:**

There are some problems and probabilities of sugarcane cultivation as follows.

## **1. Low Yield**

The yield of sugarcane is very low in India in different five years plans, attempt has been made for increasing sugarcane production measures. As a result, yield of sugarcane is increasing gradually.

## **2. Low Quality**

The India sugarcane's are poor in quality and also in sucrose content. The sugarcane research institute is trying to evolve good quality sugarcane.

## **3. User of Bagasse**

The bagasses after extraction of juice are generally as fuel. But it can be used for making paper pulp which can be used for the manufacturing of paper. In this case, farmers can be economically benefited by selling the bagasse in the market.

## **4. Misuse of Sugarcane Juice**

Out of total production of sugarcane in our country, 75% of sugarcane are used for preparation of jiggery (gur). Only 25% is used for preparation of sugar. Now days sugar is most popular and used more than jiggery. The price of sugar is more than jiggery. The cost of production of jiggery is more to the sugarcane producer.

## **5. Want of Alcohol Production Facility**

Alcohol costs more in the market. But there are no such facilities available for the sugarcane producer. The sugarcane producer is deprived of getting higher price of sugarcane as there is no facility of producing alcohol.

## **6. Want of Adequate Fertilizers**

Sugarcane is an exhausting crop and makes the soil infertile under this condition, heavy manuring both organic and inorganic, needs for getting higher yield of sugarcane. But the sugarcane producer falls to apply adequate amount of fertilizer as most of them are not financially sound.

## **7. Problem of Cultivating Sugarcane in the South**

The area under sugarcane cultivation is not increased remarkably in south India in spite of having suitable conditions for sugarcane cultivation. This is due to costly irrigation facility, cyclonic weather and priority of cultivation of other crops.

## **8. Low Price of Sugarcane**

Transportation of sugarcane from the area of cultivation to the other places for selling is a difficult and costly method. The sugarcane producers are being compelled to sell their produce at low price to the sugarcane mills of their respective locality.

### **3.12 CLASSIFICATION**

Sugarcane belongs to the genus 'Saccharum' in the family of 'Gramineae'. The genus 'Saccharum' comprises the following species out of which three are cultivated and two are wild.

#### **1. Saccharum Officinarum:**

It is a thick, noble and juicy cane good for chewing purpose also. This cane contains high sugar, low fiber and produces high tonnage. This type of cane is susceptible to red rot and mosaic disease, but it is resistant to smut disease. This species includes the tropical canes indigenous to New Guinea. The cultivation of this species is limited to tropical areas.

#### **2. Saccharum Barberi:**

It is a thick cane of upper India and grown in indo-Gangetic plains from time immemorial. It is an early maturing type having short and thick canes, narrow leaves, low to medium, sucrose content. This species is also indigenous to North Eastern India and includes saretha and sunnabile group of sugarcane. It is also a cultivated species.

#### **3. Saccharum Sinensis:**

It is also a cultivated species which is indigenous to North-Eastern India. It is also early maturing type having long and thin stalks, broad leaves and low to medium sucrose content. Internodes of this cane are long and more or less ZigZag and nodes are prominent. It is grown in the sub-tropical belt of India and China and the species includes 'Pansathi', 'Nargori' and 'Mango Groups of Sugarcane', it is Chinese cane.

#### **4. Saccharum Spontaneum**

It is a wild cane. It is used in making hybrid with other species.

## **5. Saccharum robusta**

It is also a wild cane. It is believed that this species might have played a part with others in the evolution of cultivated noble cane i.e. *saccharum officinarum*.

Sugarcane breeding station in India was established at Coimbatore, Tamilnadu in 1912. In 1952, this station was taken over directly by Ministry of Agriculture, Government of India and its States was raised to an institute and there after. It becomes an Institute of Indian Council of Agricultural Research (ICAR), New Delhi in the year 1969.

### **3.13 MANAGEMENT OF SOIL**

It has been generally concluded Callen 1935, Dutt 1950 that for the black and red soils of India ploughing by a mould-board inversion plough is of no special economic significance. Since the operation does not increase profits as compared to local wooden plough that merely breaks open the top soil (10-12 cms). The ploughing with inversion plough becomes costlier and hence only on soils having perennial weed problem occasional (once in three or five years) deeper ploughing becomes necessary.

1. Best in well drained loamy soils
2. Light soil with irrigation and heavy soil with drainage are required
3. Saline, alkaline and acidic soils are not suitable.
4. Loom, day loom, alluviums, brown or reddish loom
5. Pre-irrigation is required for irrigated land and in rainfed areas fields meant for sugarcane are left fallow during monsoon.
6. There must be enough moisture at the time of ploughing.

### **3.14 SEED AND SOWING**

#### **i) Seed Selections**

1. Require healthy seed material free from pest and disease
2. The top one third to half portion by cane is best for sowing

#### **ii) Seed Preparation and Treatment**

1. Remove dry leaves of cane stalks
2. Cane is cut into three banded sets usually 30 to 45cm long
3. 35000, 4000 sets I had obtained from about 75-80 quint by cane.

### **3.15 Kisan Call Centers**

The 'Kisan Call Center', an ambitious project initiated by the Ministry of Agriculture Department of Agriculture and Co-operation, Government of India, has been started on 21/06/2004. A 'Kisan Call Center', is an integrated telecommunication network, computer support and scientific manpower so as to effectively manage the queries raised by the farmers instantly in their fields using telephone and computer, interact with farmers to understand their problems per se and answer the query at one call center. For this purpose, a unique and toll free telephone number 1551 has been given to farmers for raising their queries from distant/remote places.

Among different 'Kisan Call Centers' established in the country, the Indian Institute of Sugar Research in Lucknow, is one of them. For this purpose scientists at the institute have been entrusted with the poise responsibility to interact with the cane growers and understand their problems and answer their queries effectively and efficiently.

### **3.16 Sugarcane Varieties:**

#### **Subtropical**

In the varietal census carried out in 1975-76 in the subtropical state covering Punjab, Haryana, Uttar Pradesh, Bihar, West Bengal, Rajasthan and Madhya Pradesh. The 3 varieties that stood out in the order of area under sugarcane were (01146, Co.1158 and B017) The details regarding these varieties are given below in Maharashtra State varieties.

#### **1. Co-416 (POJ 2878 x Co.280):**

In spite of 4 decades of cultivation the variety still occupies the dominant position in terms of area in the Southern belt and second on an all-India basis. Co-419 is an excellent germinator and has a very vigorous early growth with cane formation much earlier than in other varieties.

#### **2. Co-740 [P3247 (Co421 x Co440) X P4775 (Co464 x Co440)]**

Co-740 was released from the Coimbatore institute in 1949. After a trial at the sugarcane research station, Padegaon, Maharashtra. It was released for commercial cultivation. In the state in 1956 as superior to Co-419 in yield and quality both for eksali and adsali cropping.

### **3. Co-997 [Co-683 x XP 636/32 (PoJ 2725 Derivative)]**

Co-997 was released from the Coimbatore institute in 1953. Its good performance was limited to Maharashtra, where it was released for general cultivation in 1958 for all the areas as a very high, early maturing variety.

### **4. Co-62175 (Co-951 x Co-419)**

Co-62175 has come into general cultivation recently. In 1975-76 it occupied 13294 hc. in Maharashtra and Andhra Pradesh and 3069 ha in Orissa, the total area being nearly equivalent to that of Co-658. It was released for general cultivation in Andhra Pradesh in 1968 and in Orissa.

### **5. Co-6364 (Co-419 x Co-605)**

Co-6364 was released from the Coimbatore institute in 1963. The variety has localized importance in Tamilnadu having come into prominence only during the last few years. It is replacing the ruling variety Co-419 with its higher yielding capacity and erect habit.

### **6. Co-658 (Co-443 x Co-605)**

Co-658 was released from the Coimbatore institute in 1947. It made an impact in Tamilnadu only as an early variety and that too in localized areas. It was released for general cultivation in Tamilnadu in 1960 and by 1970-71 it had covered 22946 ha which was 19.97% of the total sugarcane area in the State.

### **3.17 Time and Method of Application:**

F.Y.M. compost should be applied before 15-30 day before planting. In case of spring planted crop half dose by N and fall P & 4 should be applied at time by showing and remaining hard dose by N80-90 days after planting.

In case by autumn fall P and K and half N at days by planting tune and remaining half N after 110-120 days by planting tune and remaining half N after 110-120 days by planning. In case adasli planting 3<sup>rd</sup> N 180 day.

### **3.18 Water Management:**

1. Total water requirement 200 to 300 cm
2. Total seven irrigation five before and two after monsoon in North
3. In each irrigation 3 acre in each water should be applied



4. Life cycle by sugarcane divided into germination phase (60 in day from planting) formative phase 60<sup>th</sup> to 130<sup>th</sup> to 250<sup>th</sup> day and maturity phase (200 to 365<sup>th</sup> day)
5. Water requirement during phase and growth phase is max

### **3.19 Pricing of Sugarcane:**

The price of any commodity has vital significant in capitalistic or mixed economy. The entrepreneur takes decisions about the volume of production with due regard to its prevailing and future price in the market. The entrepreneur continues the production so long as the price cover has cost of production. In case the cost is more than the cost of production he gets in incentive for increased production on the other hand when the price falls short or its cost. It results in curtailment of production by the entrepreneur. Naturally the producers are always kier of the maximization of their profit.

It is said that perfect competitor offers a reasonable price to both producers & consumers. In perfect competition there are unlimited suppliers on the one hand and ultimate buyers on the other. Neither suppliers nor buyers can influence the total supply of demand price of commodity is fixed where demand curve and supply curve interest each other and this price is accepted by both the producer (or supplier) and consumer respectively. In perfect computation producers as well as buyers know the market situation. Hence no one can influence the prevailing market price. The goods sold in the market are homogenous and every producer has freedom to enter or leave the market. In the long run, the price of commodity gives fair profit to producers. Hence the industry attains equilibrium.

In the case of most of the agricultural produce, the price seems to be regulated more or less by the factors of demand and supply. Mainly affected by seasonal factors and climatic condition, however taking into consideration the experience of cane growers in India, it cannot be said that, the price of their canes decided according to the mechanism of perfect competition. The number of the cane is decided according to the mechanism of perfect competitions the number of cane growers. The farmers are large but the numbers of buyers (sugar factories) is limited. The cane growers do not have the freedom to sell their cane to the factory of their choice. Some sugar factories sponsor certain irrigation scheme. The

farmers who derived benefits from such irrigation schemes have to supply their cane to the sponsoring factories. It means the cane growers have to freedom to their choice. Beside the Government too has imposed restrictions, on farmers as too which factory. They should supply their sugarcane, under such circumstances; the cane grower helplessly accepts the price of cane affected by the sugar factory, from the above discussion. It is obvious that the fundamental characteristics of perfect competitions.

If the price of sugar cane is not fixed by the process of perfect competitions, then the questions arises, how is it fixed? The other method of fixing the cane price is that the monopoly pricing but monopolistic characteristic also do not exist, while the cane price is that fixed. Because one sugarcane producer era group of cane producers cannot control the supply of sugarcane perhaps cane buyers (sugar factory) may act as monopolistic. They decide the price of sugarcane when the finished product viz. sugarcane for sales. The producer take into consideration the entire cost i.e. various taxes dues, cost of raw material conversion cost, rent and depreciation. Interest and fair returns on investment. If the price of sugar is less or it does not cover the cost of production then factories do not sell their product or they sell their product is very small quantity of their produce. So long as it is possible to decrease the price of sugarcane with decreasing sugar price without affecting the area under cultivation of residual price are always aware that they can't reduce the price of sugarcane below its apparent cost of cultivation. Thus these sugar factories take cane that the price of sugar does not full below their cost of production and directly the cost of cultivation of sugarcane.

### **3.20 Factories Affecting the Price of Sugarcane:**

Price of sugarcane is the most significant in centimes to the cane growers cane price is dependent on various factory various factors affect sugarcane is general.

Following are the important factory

1. Cane average
2. Cane productions

3. The difference in the prices of cane paid by sugar most gur, mahers, khandusary makers.
4. Execution of agreement between the factories and the cane growers
5. Actual implementations of such agreement
6. Proceed for payment of cane prices and
7. The minimum prices two sugarcane fixed by the Government
8. Seasonal factory

More ever the following factors also indigence the price of sugarcane. Let up briefly examine these factors.

### **1. Seasonal Factors**

The monsoon is decisive factor in the agricultural late of the country good crop of sugarcane depends on seasonal such as timely and sufficient rainfall, required amount of moisture and control on pest and disuses. Other things remaining the same the increased supply of cane resifting from higher yields may lower cane price as payable by the sugar factories some times this prices comes down to lower level than the minimum cane price level fixed under the provision of statutory minimum cane prices similarly, if the demand cane using sections falls the cane growers will have no alternative but to sale their sugarcane to sugar mill even it the cane price decreased still further.

On the other hand the sugar mills will be completed to pay higher prices to cane growers in case of lower cane production due to average seasonal or whether conditions. It is thus clear that the cane prices may fluctuate due to seasonal varieties.

### **2. Prices of Gur and Khandsari**

It is socially necessary to arrange to proper distribution of available sugarcane to the sugar industry. Gur and Kandsnary industry. This has the capacity, for establishing the sugar industries. And also for maintain suitable prices for both these for both these sectors. It can also avort calthrouth competitions between the two. About 35.3% of the sugarcane produced in the country is utilized in the manufacture of sugar while. About 52.9% is used for the manufachi 20 of Gur and Khandsuri and the balance of 11.8% goes to feeding chewing, seeding and other uses. In this way a major portion of sugarcane used for the purpose of other than manufacture of sugar.

### **3. Price of Alternative Agriculture Produce**

Sugarcane occupies land for a longer period than any other agricultural crop. Its complete growth period extends from 10 months to 18 months during this period two or more other crops including both food crops and cash crop can be grown which can give the terms a quencher return for their inputs paddy maize, wheat, oilseeds, chilly and other types of crops are the alternative of sugarcane cultivations. Sugarcane also needs larger investment of inputs compared to the wheat and paddy crops in which technological revolution has already been achieved.

The prices of these products cash affect the price of cane payable of the sugar mills. Higher price of cereals and other cash will divest the land under sugarcane cultivations to these crop will divert the land sugarcane cultivation to there crops in such conditions the sugar mills are complied to pay higher prices for the sugarcane to make full capacity utilizations.

#### **3.21 Fixation of Cane Prices by the Government**

Before 1962-63 the main principle and method adopted by the Central Government and State Government in taxing the minimum were as follows.

1. Lineling sugarcane price to prevailing sugar price
2. Fixing minimum price, unrelated to sugar price for the whole or part of season
3. Fixing consolidate price
4. Linking cane price to extra realization from the sale of sugar

However, in the recent past, the Ragaut Unions also have excreted pressure on the Government and concerned agencies to fix fair and reasonable prices of sugarcane. Their role also is immense and they do affect the sugarcane price.

#### **3.22 Significance of Sugarcane Farming in India:**

India can be described as an agricultural country par excellence. Agriculture is the largest industry in the country. It is the source of livelihood for over 70% of population in the country.

The significance of sugarcane farming in the national economy can be best explained by considering following aspects.

## **1. Share of Sugar in the Farmers Income**

The first and foremost measure of the place of sugarcane farming in the economy is well reflected in the large income that flows out of this section. Two important facts must be emphasized. (1) Sugar contributes a major share of farmers income in India & (2) The share of sugar in farmers income has been decreasing continuously.

## **2. Employment in the country**

In providing employment to the people of India. Sugar industries gets on to the top position among the avenues of employment. It is thus clear that sugar industry is the largest employer of the people over shadowing any other source of jobs singly or even collectively.

## **3. Importance of Sugarcane for Industrial Development**

Indian agriculture has been the source of supply of raw material to our leading industries, sugar industries are depend on agriculture. There are many other industries which depend on agriculture in an indirect manner.

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